

REQUEST FOR APPROVAL TO COMMENCE WITH MINING OPERATION

Request approval be granted to commence mining on Mineral Lease No. 34601, in Section 16, T 9 N, R 16 W, Salt Lake Base and Meridian, in Western Box Elder County, Utah.

Preliminary exploration has been conducted by geological studies using contour maps, aerial photography, mapping of fault zones, and prospecting on the property using ultra violet lamps.

An uplifted and rotated Earth block covering an area of approximately 160 acres was identified. The rotation of the block resulted in the creation of several faults, many of which are mineralized, and a wide altered zone on the contact between the sedimentary rocks and the quartz monzonite contact. This has resulted in making conditions favorable for the introduction of minerals.

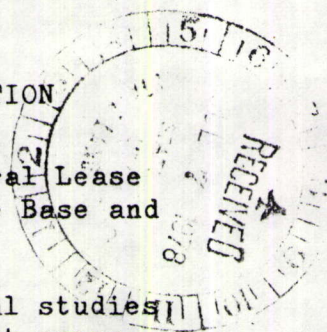
Ultraviolet lighting of the identified contact zone and faults has confirmed the presence of Scheelite (CaWO_4) in commercial quantities, showing good penetration of the tungsten throughout the host rock. Samples of the surface rock sent in for assay went 2.63 percent tungsten.

As a result of the quantity and quality of the ore found in place, it is our contention that this is all that should be required to comply with the requirements of the exploration phase. The proposed mining phase is expected to be in commercial ore from the surface of the ground on down at each of the proposed mining sites.

Following is a complete description of the mining operation, and we have attempted to cover all of the requirements as specified in your memorandum.

A. Description of the proposed mining activity:

- 1) The attached USGS topographic map shows the location of the leased ground plus additional ground that leases have been applied for. The map shows the location of the roads that are present and proposed and the location of proposed shafts and tunnels.
- 2) The estimated number of surface acres to be disturbed is about one half acre. One fourth of an acre will be disturbed in constructing a road about 1100 feet long. The road will provide access to two of the proposed mining sites. All other proposed mining sites are accessible from previously constructed roads. The ground disturbance from the shafts and tunnels will be about one quarter acre. The proposed access road will go up a draw for about 700 feet and will require very little surface disturbance to construct. The remaining 400 feet will be constructed around the nose of the hill to the mining sites. The slope of the road will be about 30 degrees (See the topographic map). The volume of material to be moved each year will be 500 tons, and the yearly surface area to be disturbed will be about one quarter acre.



- 3) Tentative plans include the construction of a small 10 x 20 foot semi-permanent shed to protect our equipment from vandals. We will also construct a 6 x 6 foot powder house to protect our explosives. The estimated material to be removed from the mining activity the first year will be less than 500 tons, but may increase during the second and third years depending on marketing conditions and the ore available. The projection will be updated yearly, and you will be kept informed of such updating.

No ponds are planned at this time. The ore will not be crushed on the property the first year, but in the second year, a portable crusher will be used on the property. Loaders will consist of portable metal ore bins that can be easily removed from the property when the mining operation has been completed.

- 4) A preliminary diagram is attached showing the dip of the faults, and location of the tunnel to intersect the faults. The diagram of the shafts is very general, and is subject to change in order to continue following the mineralized seams with increasing depth. The proposed tunnel size is about 5 feet wide by about 6 and one half feet in height. The shaft size proposed is 8 x 8 feet, and as deep as necessary to effectively mine the ore.

Two or three small trailer homes will be placed on the property for office space and living quarters for those engaged in the mining operation. Very little surface disturbance will be necessary for pads to park the trailers because the proposed site is nearly flat already.

- 5) The mining methods to be used include the construction of tunnels as described above using hand tools (shovels and picks) and an air compressor and jack hammers to drill shot holes. Dynamite will be used as required to facilitate the mining of ore and waste rock. A set of narrow-gage rails will be installed in the tunnels, and an ore car will be used to haul the ore and waste rock to the surface. A tailings pile will be built to accommodate the waste rock or tailings, and a small ore chute will be constructed to carry the tungsten ore to the storage bins for loading it in trucks for haulage to the previously constructed tungsten mill located on another property. We contemplate two or three tunnels to be constructed as described above.

The shafts will be vertical, and small A-frames will be built over the shafts utilizing pulleys and cable and ore-bucket to haul ore and waste rock to the surface. Again, the ore will be loaded into ore bins using a conveyor belt. The waste rock will be carried to waste rock tailings piles using the same conveyor belt system. Both the conveyor system and ore bins will be portable for easy removal after the mining operation has been completed. Two or three shafts are proposed at this time. All safety precautions will be taken to ensure a safe mining operation.

- 6) There is no water to be found on the property. There are no surface springs, and it is unlikely that sub-surface water will be encountered during the mining operation. The water required for the operation will be hauled in from the Rosebud Ranch, a distance of about six miles. Approval has already been given by LaGrande Morris and Lynn Janes to use some of their water.

The only water required for the operation will be for drinking and other culinary purposes, and a small amount of water to control rock dust during the drilling of blast holes. All concentration of ore will be done off the State leased land. As a result of this, there should be no contamination of any water that may exist on the leased ground, and no waste disposal problems.

- 7) No water rights will be acquired, and the water to be used will be hauled in as described above.
- 8) The ore mined will be hauled by truck over an existing road to the Eugene Seifert Mill which is located about four miles from the State leased land for concentrating. The tungsten concentrate will then be hauled by truck to Fallon, Nevada to the tungsten buying station.
- 9) A right-of-way through four miles of private land is being negotiated at this time with the owner, Nick Chournos, of Tremonton, Utah. All other transportation of the ore will be over public highway.
- 10) The mining operation will begin in 1978 or 1979 depending on when approval is given by the Division of State Lands. We would not commence operation in late fall or winter. The tungsten ore, when mined, will be hauled to the mill and when sufficient ore is at the mill site for a mill run, it will be milled and the concentrate sold.
- 11) The primary mineral to be mined is tungsten in the form of Scheelite (CaWO_4). Some silver is expected to be encountered, but it is doubtful that it will be found in economic quantities.

B. Description of Physical geography and environmental factors:

- 1) In accordance with your request, panoramic photos are attached showing the general area to be disturbed.

- 2) To our knowledge there is no existing use for the land, unless Nick Chournos, of Tremonton, Utah has grazing rights to the land for his herds of sheep. We are checking this point out now. We want everyone that may be involved with this land to be aware of the operation. If the land is being used for grazing sheep, this would be their winter grazing area. During the Summer months the sheep are transported to Monte Cristo to the Summer Range.

There is a hill located in the east half of the North-east quarter of Section 16 where present surface disturbance exists. The top of the hill and north and north-west slopes have been stripped off by heavy equipment such as a dozer. About two feet of material has been stripped off an area about 150 feet wide by about 600 feet long. Down the north-west slope near the bottom of the same hill, a prospect hole exists that is about 8 by 12 feet by about 15 feet deep. Photos are included showing this previous activity.

On the hill mentioned above, it is likely that two pods of ore are present as indicated by the previous surface disturbance, cutting into two iron-rich areas having a concentration of tungsten that warrants further work. The two pods of ore will be mined from two open pits each having dimensions approximately 20 feet wide by 20 feet deep by about 40 feet long. During the reclamation phase, these two open cuts will be filled in, and the tailings piles at the tunnel and shaft sites will be filled in or contoured as necessary to blend in with the surrounding areas.

- 3) Reference for known reports or studies dealing with the archaeology, wildlife, natural vegetation, or aesthetic quality in the areas to be disturbed: We are not aware of any studies or reports covering this area. There has been nothing found on the property of archeological importance, not even an arrowhead. If anything of this nature is found, it will not be disturbed, and such knowledge will be furnished to the appropriate State offices.

The only wildlife noted on the property include an occasional deer, a few squirrels and lizzards, and a few birds.

Vegetation consists chiefly of cedar trees and pinion pine. Since the area is so arid, it is doubtful that any grasses could be used to re-seed the affected areas, except in the bottom of draws. The roadway will be refilled, contoured, and re-seeded if it is possible to do so.

We seriously doubt that there is anything of aesthetic quality in the areas to be disturbed.

- 4) A diagram of the subsurface geology is attached as it relates to the proposed development. The area consists of an igneous rock (quartz monzonite) and altered sedimentary rocks, chiefly

limestones and dolomites. The contact between the igneous rock and sedimentary rocks is very irregular. Most of the mining done will be along the contact zone.

- 5) There is no surface or groundwater present on the property, as far as can be determined. Should any subsurface water be found, it will be used during the period of the mining operation for the purposes specified in item 6) on page 3.
- 6) The method of solid waste disposal: An outhouse will be constructed for its intended purpose. All other solid waste will be placed in garbage cans and hauled off the property, or else be placed in a small pit and covered. We will be happy to go either way that the Board of State Lands feels is best.
- 7) When the mining activity is terminated all structures will be removed from the leased land, and the open pits and shafts will be covered. The tunnel entrances will be closed. The areas around the tunnels and shafts will be contoured to minimize the affects of erosion, and blend in with the surrounding areas. There is very little top soil in the area, but that which is encountered will be stockpiled and re-used during the reclamation phase to cover the ground which has been disturbed. We should not be responsible for the areas that have already been disturbed by previous activity in the area.

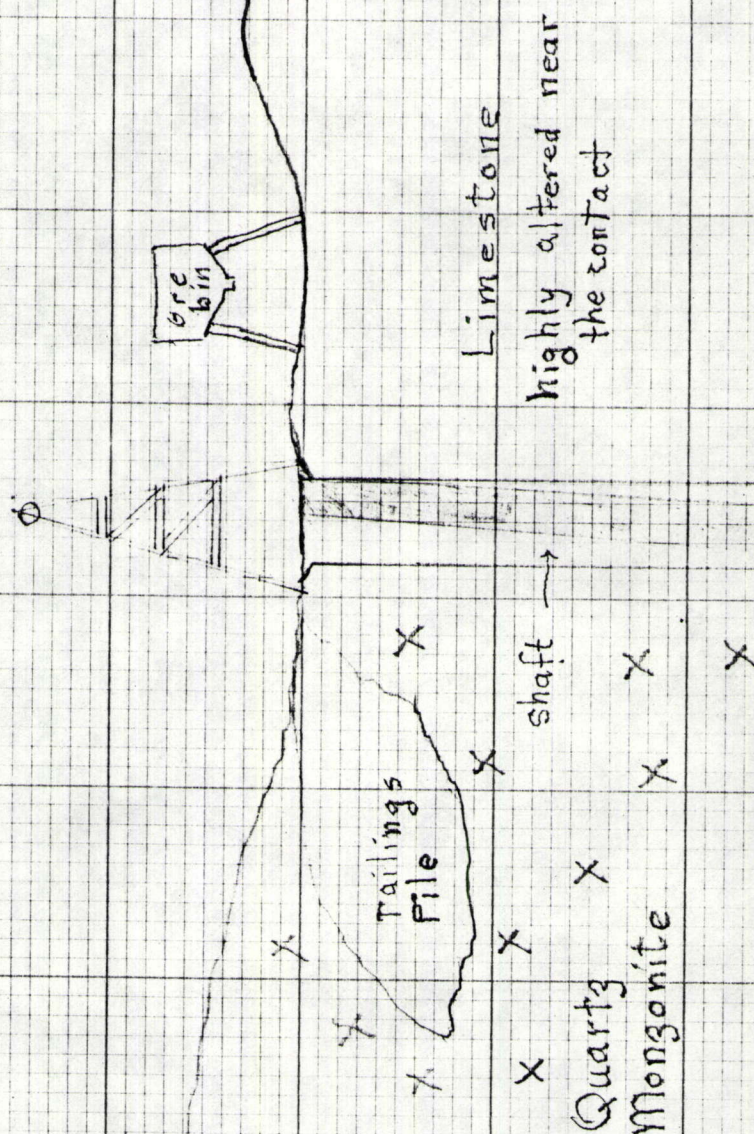
No natural drainage channels will be blocked. The roadways will be refilled and re-contoured. If required, new cedar trees and pinion pines can be re-planted to take the place of those that must be removed during the operation. We will attempt to plant grasses in the areas that we disturb, where such grasses were present before the operation.

- P
- C. File a "notice of exemption" from the Mined Land Reclamation Act of 1975, with the Division of Oil, Gas, and Mining.
We are obligated to comply with the provisions of the Mined land Reclamation Act of 1975, therefore we do not understand the need for filing a "notice of exemption". Please clarify, and we will do our best to comply.

Respectfully Submitted,

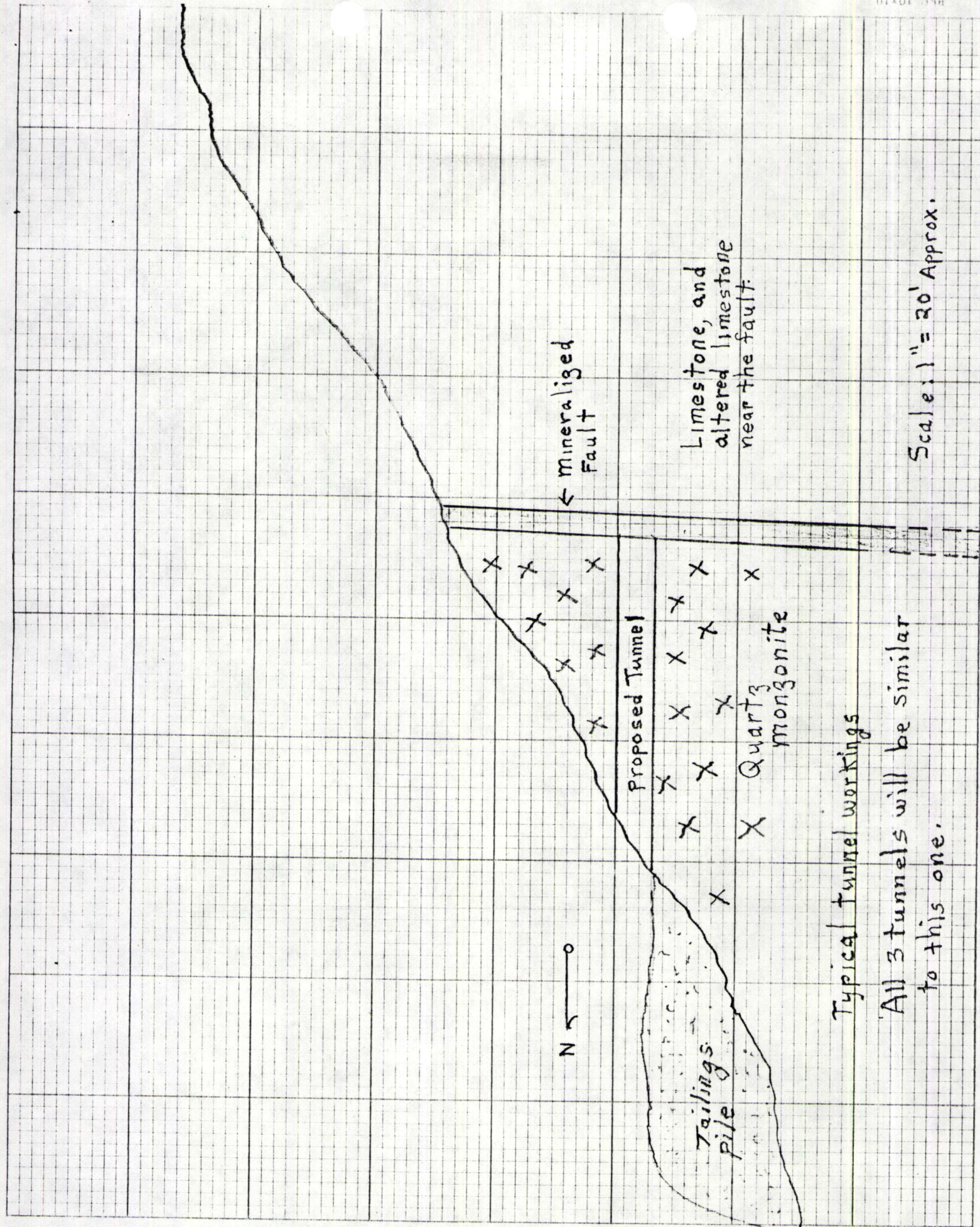
Lorenzo C. Demars
Geologist
15 June 1978

62622 - 777-7387



Typical Shaft Workings

All 3 shafts will be
similar to this one.



Scale: 1" = 20' Approx.

Typical tunnel workings

All 3 tunnels will be similar to this one.

N

Present
Surface

Proposed
open cut

Proposed
open cut

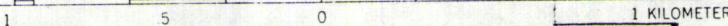
Dashed lines show the general shape of the surface during the mining operation to allow for safe benches and berms.

Cross section of open pits

Scale: 1" = 20' Approx.



1 MILE

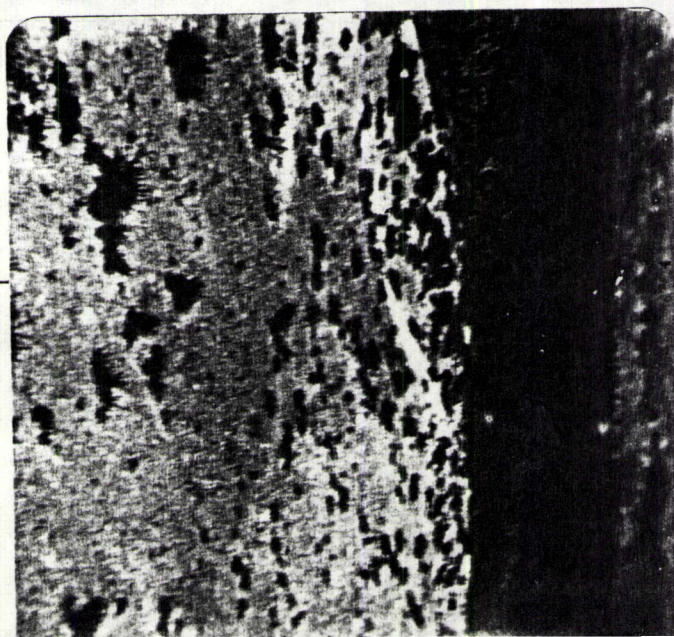
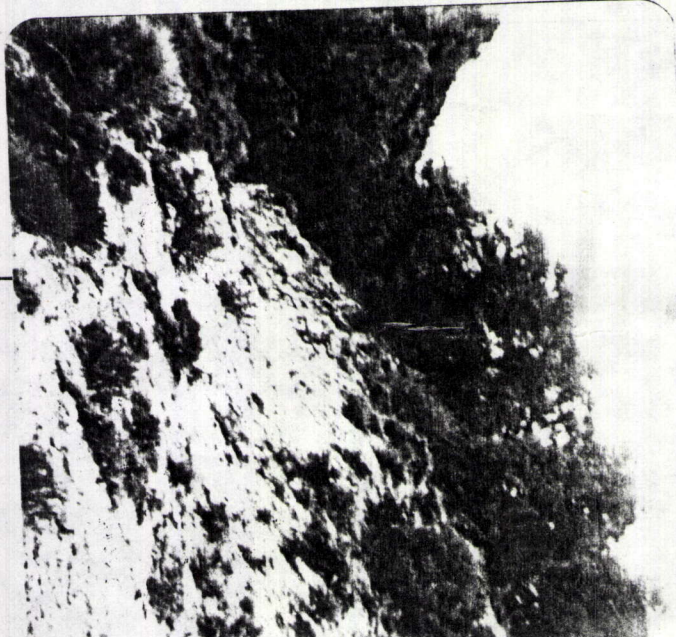
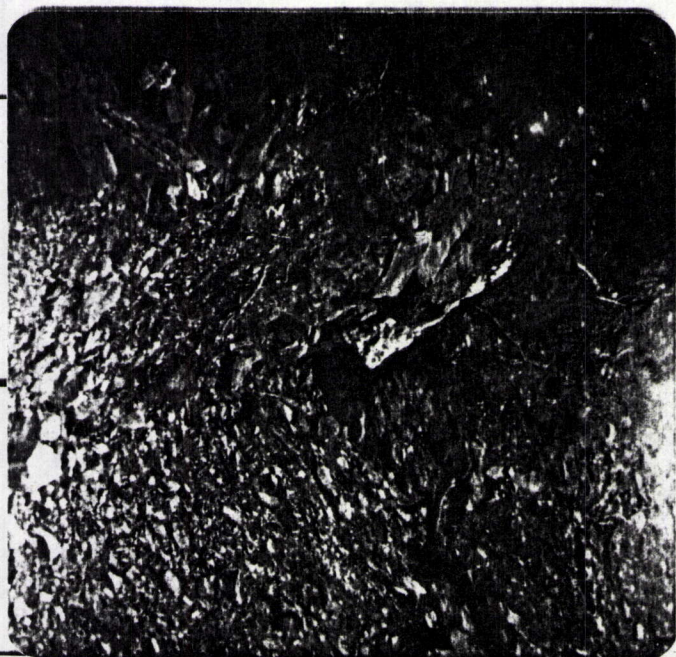
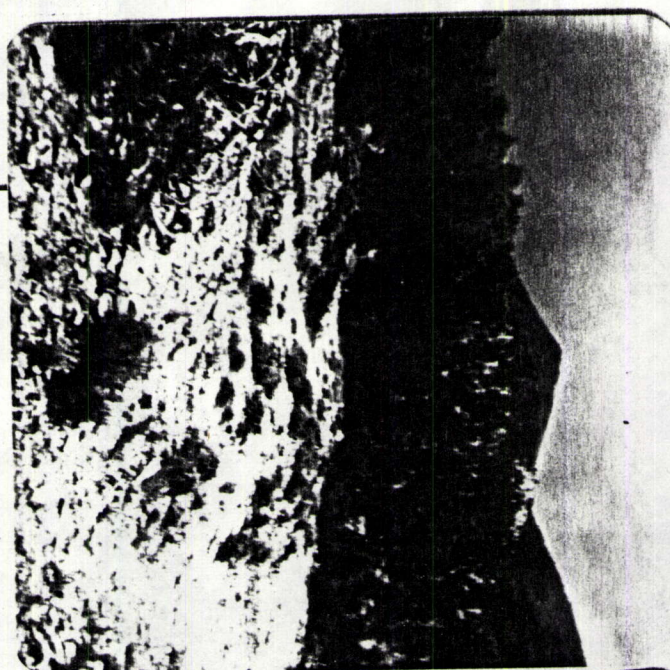
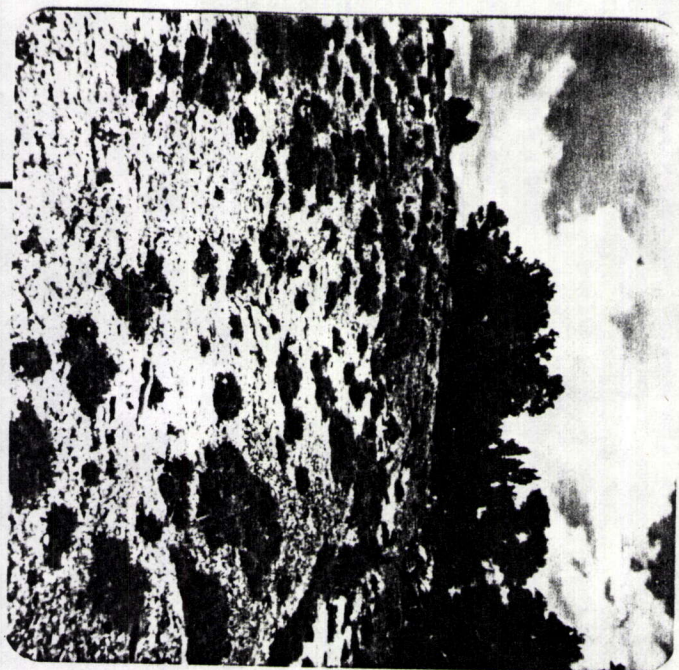


Legend

UTAH

QUADRANGLE LOCATION
Emigrant Pass

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS



Looking South
From Top of Tungsten
Hill toward area
of proposed mine
June 78

East Side Tungsten Hill
Hill of proposed open
cut
June 78

Top of Hill Looking
North

June 78
Area of proposed
Pit or open cut 20' x 20' x
40'

Top of Hill
Sept 16 June 78
Again area of open
cut
Looking north

Mine Out Side
South of Tungsten Hill
Sept. 16
shaft on hill of
proposed mine tunnel
June 78
This is about 30 feet
deep and was dug by
Persons unknown and
at a time unknown to us

East side Road cut
Looking South East
From Top of Hill
Road cut

June 78

August 15, 1978

Division of Wildlife Resources
1596 West North Temple
Salt Lake City, UT
84116

ATTENTION: EARL SPARKS

Gentlemen:

The Division of State Lands is preparing an environmental assessment on the proposed development of a small tungsten mine on the E $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 16, Township 9 North, Range 16 West, SLM., in Box Elder County (ML 34601-Metalliferous Minerals). The operation will disturb approximately one-half acre of surface area and will mine a volume of 500 tons per year.

Your immediate comments concerning the impact of such an operation upon known or suspected wildlife populations in the vicinity along with suggestions for possible mitigative measures is solicited.

Sincerely yours,

JOHN T. BLAKE
ECONOMIC GEOGRAPHER

JTB/bp